

Part 2 - Remarks

This Amendment and Response responds to the office action of August 31, 2005. A petition for a three month extension of time and the fee therefor, accompanies this Amendment and Response, thereby extending the time for response to February 28, 2006.

In the August 31 office action, claims 57 and 60-65 are withdrawn from further consideration as drawn to a non elected invention; claim 34 was noted as missing; claims 1-25, 50-56 and 66-77 were rejected under 35 USC 103 as obvious from Rogers (US patent 4,347,213); claims 26-33, 47-49, 58 and 59 were rejected under 35 USC 103 as obvious from Rogers in view of Brubaker (US patent 5,470,590), and claims 35 and 41, and their dependent claims 36-40 and 42-46, were objected to but were noted as allowable if rewritten in independent form including all of the limitations of the base and intervening claims.

Reconsideration of these rejections and objections is respectfully requested in view of the above amendments to the pending claims 1, 2, 4-13, 16, 18-33, 35-56, 58, 59 and 66-83, and these remarks.

Withdrawn and Canceled Claims

Claims 57 and 60-65 have been canceled, without prejudice to assert those claims in a divisional application, in view of the continued restriction requirement.

Claims 3, 14, 15 and 17 have been canceled because the subject matter of those claims is present in other pending claims.

Missing Claim

Claim 34 was never originally presented. Part 1 above indicates the status of claim 34 as "Never Presented."

Claim Amendments

The claims have been amended in the manner set forth in Part 1 to improve their form and content and to avoid redundancies.

Claim Objections

Claim 35 has been amended into independent form by incorporating subject matter from the claims 1, 12, 14, 16, 26, 27 and 28 upon which claim 35 originally depended. Claim 41 has also been amended into independent form by incorporating subject matter from claims 1, 12, 14, 16 and 26, from which claim 41 originally depended. Amended claims 35 and 41 are believed to include all of the essential features necessary to support the allowable subject matter of those claims, but all the limitations of preceding claims may not have been exactly included. Nevertheless, it is believed that claims 35 and 41 are allowable, in accordance with the notation of allowable subject matter. In addition, claims 36-40 and 42-46, which depend on amended claims 35 and 41, respectively, are also believed to be allowable.

New Claims

New claim 78 contain subject matter from original claims 35 and 36. New claims 79-81 contain subject matter from original claims 38-40, respectively. New claims 82 and 83 contain subject matter from original claim 1. These new claims do not present new matter for these reasons.

Obviousness Rejections

In regard to the obviousness rejection of claims 1-25 and 50-56, the Rogers reference does not suggest the concept of creating a negative impression by collapsing a piece of impression foam which has the characteristic of a substantially constant crushing force over a predetermined range of crushing distances, as is recited in amended claim 1, from which these other rejected claims depend. Rogers uses a pliable bag filled with pellets of material, such as styrofoam. See column 1, lines 64-65. The individual whose shape is to be captured is placed on the bag. The bag and the person are then moved around to move the pellets to fill the voids at the individual's body. See column 1, line 68-column 2, line 5; and column 5, lines 17-22. Once the pellets have moved to conform to the body, a vacuum is created within the bag, and the vacuum locks or holds the pellets in the position to obtain a negative impression of the body contour. Thereafter, various subsequent steps are employed to obtain rigid molds

of the vacuum-created configuration, and those rigid molds are thereafter used to form a contoured cushion that will comply with the body.

The Rogers device is a conventional seating simulator over which the present invention is an improvement. Devices similar to Rogers are described in the application at page 3, line 26 to page 4, line 12. The pellets used in the Rogers device do not collapse. Instead, movement of the bag and the person is required to move or flow the pellets within the bag until the pellets simulate the body contour. As described in Rogers, the person must be moved laterally and vertically and the bag must be lifted and pushed to cause the pellets to flow and move. See column 5, lines 17-41. Thus, there is nothing in Rogers remotely related to collapsing a piece of impression foam to create a negative impression corresponding to the body shape. The pellets in Rogers simply do not collapse. The pellets flow or move. Furthermore, the pellets in Rogers are not a piece of impression foam, as is now recited in amended claim 1.

The rejection suggests that it would be obvious to take the impression without collapsing the bag on itself. This argument misses the point of claim 1. Using impression foam which has a substantially constant crushing force over a predetermined range of crushing distances creates a negative impression that, when used to form a support contour in the cushion, will apply substantially uniform pressure to the individual's body. The typical type of crushing characteristic is an increasing crushing force with greater distances or depths of crushing movement, similar to the characteristic of a spring. With a crushing force characteristic that increases with greater depth, those parts of the negative impression which extend the deepest are formed from greater body pressure than those portions of the negative impression which are relatively shallow. Making a cushion with a support contour under these circumstances results in the cushion applying greater pressure on those portions of the body which extend deeper into the cushion and less pressure on those body portions which do not extend us deeply. Nonuniform pressure distribution is generally not desired in a cushion, except in those specific locations which are unique to this and related inventions of the applicant: i.e. lesser pressure on the ischial tuberosities,

greater trochanters, the coccyx and sacrum and the perineal area, and greater pressure on the proximal thighs and lateral posterior buttocks. Nonuniform pressure distribution can enhance the risks of creating pressure sores in a conventional cushion.

The importance of using impression foam with a constant crushing force with depth is described in the application, from page 12, line 3 to page 14, line 22, and particularly in the paragraph at page 12, line 22.

Use of impression foam with a substantially constant crush characteristic over the entire range of crushing which occurs when the negative impression is obtained, as recited in amended claim 1, is a significant improvement. None of the techniques described in the cited references provides a true, equally loaded or fully loaded anatomical shape. The conventional technique described in Rogers certainly is not capable of attaining these highly desirable improvements, because there is nothing in Rogers that relates to a piece of impression foam having a substantially constant crushing force over a range of crushing distances.

The rejection submits that the pellets of Rogers "have a substantially constant crush characteristic since presumably they are selected from the same lot." There is no description whatsoever in Rogers that the pellets crush. Indeed, Rogers' suggestion is contrary. The pellets must remain of a substantially fixed size because otherwise when the pellets were held in place by the application of vacuum, those pellets would shrink or deform and not provide an accurate representation of the body. Furthermore, the rejection ignores the complete language of claim 1, which requires a substantially constant crushing force *over a predetermined range of collapse distances* within which the negative impression is created. The issue is not, as the rejection states, a constant crushing force among the pellets themselves, but is instead a constant crushing force of over a predetermined range of crushing. The Rogers pellets neither crush nor do they exhibit a constant crushing force over a predetermined range of crushing. The Rogers pellets are forced to flow around the shape the body, which has nothing to do with crushing within a predetermined range.

The rejection submits that the crush characteristics of claims 2-9 are described in Rogers. Nothing in Rogers relates to crushing, and certainly not to the more specific crush characteristics recited in claims 2-9. As noted above, the improvements of claim 1 and its dependent claims have resulted from the recognition and use of the very desirable aspects of the impression foam recited in these claims, and that impression foam is not typical impression foam. See page 14, lines 15-21. Nor has impression foam been used in the very significant and improved manner as recited in amended claim 1 and its dependent claims, in so far as is known to the applicant.

The rejection also asserts Rogers teaches the use of pellets which are fused or bonded. Support in Rogers for this position cannot be found. Indeed, Rogers suggests the contrary. The pellets in Rogers have to be separate from one another in order to flow and move into the desired position. Once in the desired position they are temporarily held in place by vacuum, but that vacuum does not fuse or bond those pellets together.

For these reasons, and others, Rogers does not suggest or render obvious the subject matter of claim 1 and its dependent claims. Reconsideration and withdrawal of the obviousness rejection based on Rogers is respectfully requested.

In regard to the obviousness rejection of claims 66-69, Rogers does not describe or suggest using a matrix of fused-together plastic beads as a support structure for supporting a person on a wheelchair. As discussed above, Rogers does not fuse the pellets together. Furthermore, Rogers does not suggest fusing the pellets together because the entire focus on purpose of the Rogers reference is to keep the pellets fluid so that they will flow into the desired contour. Temporarily holding the pellets together by applying vacuum to them is not fusing them together in the sense of forming a support structure for supporting a person on a wheelchair. Temporarily holding the pellets together does not suggest fusing them together permanently, for the same reasons that the pellets must be kept fluid to accomplish Rogers' purposes.

Fusing the beads together as recited in claims 66-69, and others, is a significant improvement, because it allows the support contour to be formed conveniently from the

beads while simultaneously allowing liquid and air to pass through the support structure. Enhanced air circulation eliminates the buildup of moisture which promotes the occurrence of sores. Passing liquid through the cushion is also a benefit for those patients with urinary incontinence. Passing liquid through the cushion is also a benefit during cleaning. The applicant is not aware of any wheelchair cushion or support structure which also has the porosity to pass liquid and air. This is a significant improvement, particularly in wheelchair-bound patients, as described in the paragraph at page 21, line 24.

The Rogers device is a simulator, and not a support structure for a cushion. Even if the Rogers device was a cushion, the bag which contains the pellets is not porous and therefore prevents air and liquid circulation because otherwise a vacuum could not be created in the bag. Many other advantages of the fused-together beads forming the matrix as recited in claims 66-69 are described at page 20, line 25 to page 21, line 29. None of these advantages or improvements is suggested by Rogers.

In regard to claims 70-77, the obviousness rejection is based on Rogers and Official Notice "that it is known to place impressions in a container and mail them to remote locations, such as for processing." The applicant specifically challenges the asserted Official Notice with respect to cushions for wheelchairs. First of all, nothing in Rogers suggests the basis for such Official Notice. To the contrary, the Rogers device is large, complicated, and is incapable of being placed in a container and mailed for processing. Secondly, claims 70-77 do not relate to placing impressions in a container and mailing them to remote locations. Instead, the claims relate to a process by which to create a wheelchair cushion which uniquely fits an individual without requiring the individual to travel to the location of elaborate, complicated and immovable fitting equipment exemplified by Rogers. The fact that claims 70-77 allows individuals to be precisely fitted for a wheelchair cushion without requiring the individual to travel is a significant advancement in the field of individually-fitted wheelchair cushions with a support contour based on a negative impression obtained from an anatomical portion of the wheelchair user. See page 4, lines 20-26 and page 17, lines 15-20. Third, the

applicant is not aware of any basis for the Official Notice with respect to forming cushions for wheelchairs, as recited in claim 70-77. The Examiner is requested to show evidence of the basis for the Official Notice.

In regard to the obviousness rejection of claims 26-33, 47-49, 58 and 59 based on Rogers in view of Brubaker, it is submitted that even if it is known to make a positive impression from a negative impression, that bit of information itself is not sufficient to overcome the substantial deficiencies and failure of Rogers to suggest the invention for the reasons discussed above. Moreover the information for which Brubaker is cited does not reach the full extent of the pending claims.

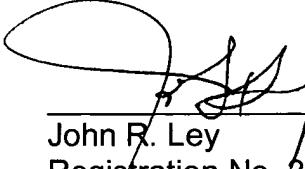
Conclusion

For the reasons articulated above, and others, it is believed that the obviousness rejections based on Rogers itself and on the combination of Rogers and Brubaker are in error and should be withdrawn. The other amendments described above are believed to resolve all other issues, leaving only the issues of obviousness which, for the reasons addressed above, are not believed applicable to the pending claims.

The Examiner is encouraged to telephone the undersigned to attempt to resolve any further issues that are seen as inhibiting the immediate allowance of this application.

Respectfully submitted,

Date: 2/27/06

  
John R. Ley  
Registration No. 27,453  
ATTORNEY FOR APPLICANT

Customer No. 28785

JOHN R. LEY, LLC  
5299 DTC Blvd., Suite 610  
Greenwood Village, Colorado 80111-3321  
Telephone: (303) 740-9000  
Facsimile: (303) 740-9042